

**REMARKS**

As a preliminary matter, the Examiner has rejected Claims 10 and 11 under 35 U.S.C. § 112. Claims 10 and 11 have been currently amended to address Examiners various concerns under 35 U.S.C. § 112. Accordingly, Applicants respectfully assert that Claims 10 and 11 are now in acceptable form. Therefore, Applicants respectfully request Examiner remove the rejections of Claims 10 and 11 under 35 U.S.C. § 112.

The Examiner has rejected Claims 7 and 8 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,776,220 to Allaire et al. (“Allaire”) in view of U.S. Patent No. 6,811,069 to Hauer et al. (“Hauer”). The Examiner has also rejected Claim 9 under 35 U.S.C. § 103(a) as being unpatentable over Allaire in view of Hauer, and further in view of XP-002305391 to Glushchenk et al. (“Glushchenk”). In addition, the Examiner has rejected Claim 10 under 35 U.S.C. § 103(a) as being unpatentable over Allaire in view of Hauer, and further in view of U.S. Patent No. 5,609,284 to Kondratenko (“Kondratenko”). The Examiner has also rejected Claim 11 under 35 U.S.C. § 103(a) as being unpatentable over Allaire in view of Hauer, and further in view of U.S. Patent Application Pub. No. 2003/0024909 to Hoekstra et al. (“Hoekstra”).

Claims 7-11 stand currently amended. Claims 1-6 stand previously canceled. Claims 7-11 are currently pending. The following remarks are considered by applicant to overcome each of the Examiner’s outstanding rejections to current claims 7-11. An early Notice of Allowance is therefore requested.

**I. SUMMARY OF RELEVANT LAW**

The determination of obviousness rests on whether the claimed invention as a whole would have been obvious to a person of ordinary skill in the art at the time the invention was made. In determining obviousness, four factors should be weighed: (1) the scope and content of the prior art, (2) the differences between the art and the claims at issue, (3) the level of

ordinary skill in the art, and (4) whatever objective evidence may be present. Obviousness may not be established using hindsight or in view of the teachings or suggestions of the inventor. The Examiner carries the burden under 35 U.S.C. § 103 to establish a prima facie case of obviousness and must show that the references relied on teach or suggest all of the limitations of the claims.

**II. REJECTION OF CLAIMS 7 AND 8 UNDER 35 U.S.C. § 103(A) BASED ON ALLAIRE IN VIEW OF HAUER**

On page 3 of the current Office Action, the Examiner rejects Claims 7 and 8 under 35 U.S.C. § 103(a) as being unpatentable over Allaire in view of Hauer. These rejections are respectfully traversed and believed overcome in view of the following discussion.

**Hauer Is Not a Proper Reference**

The Examiner cited Hauer as prior art. However, Hauer does not qualify as prior art under any section of 35 U.S.C. § 102.

First, Hauer's 102(a)/(b) date is the date of its issuance, which is 11/02/04. However, the current application claims priority to a prior PCT application. Accordingly, the effective filing date of the current application is the filing date of that prior PCT, which is 07/02/04. Since the effective filing date of the current Application predates the 102(a)/(b) date of Hauer, Hauer cannot qualify as prior art under 102(a)/(b) for purposes of a 103(a) rejection.

Second, Hauer has no 102(e) date. More specifically, Hauer is based on a PCT application which was filed on 12/09/00. Since the PCT was never published in English, and the national stage (35 U.S.C. § 371) was entered on 06/13/02, Hauer has no 102(e) date at all. MPEP § 706.02(f)(1), Example 5. Accordingly, Hauer cannot qualify as prior art under 102(e) for purposes of a 103(a) rejection.

As discussed above, Hauer cannot qualify as prior art under any section of 35 U.S.C. § 102. While the U.S. publication of the application from which Hauer issued may qualify as prior art under 102, the Hauer reference to which Examiner currently cites (i.e., the

issued patent) does not. In addition, any citation of U.S. publication of the application from which Hauer issued would require a new non-final Office Action to be issued, as the publication of the application of Hauer is a completely different reference from the issued patent of Hauer.

Therefore, Applicant respectfully asserts that Examiner must withdraw the current rejection of Claims 7 and 8 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,776,220 to Allaire et al. in view of U.S. Patent No. 6,811,069 to Hauer et al., since Hauer does not qualify as prior art.

**Examiner has Misinterpreted Allaire**

Even if Hauer were proper prior art (which, as stated above, it is not), The cited art would still fail to render Claims 7 and 8 obvious.

More specifically, Claim 7 states, in part:

**“adjusting the beam spot length** depending upon the thermal conductivity of the workpiece and the material thickness of the workpiece that it is as small as necessary for achieving the required temperature gradient for generating the splitting crack in spite of thermal conduction but is also as large as possible in order to achieve the fastest possible introduction of heat and, consequently, a high process speed;

“wherein the beam spot length is calculated from the following formula:

“ $l = 8 \times d \times 24 / WLF$ ;

“where ***l*** is the length of the beam spot, ***WLF*** is the thermal conductivity of the ceramic to be split, and ***d*** is the thickness of the ceramic workpiece to be split.” (emphasis added).

Examiner asserts that the entirety of the “adjusting the beam spot length” step is disclosed by Allaire at column 2, lines 32-40. This, however, misinterprets the teachings of Allaire.

In particular, the portion of Allaire to which Examiner cites relates not to adjusting the length of the beam spot 18. Rather, this portion of Allaire relates to how the depth, shape, and direction of the crack are determined. Allaire, Col. 4, Lns. 25-26. At no single place in Allaire is adjusting the length of the beam spot 18 ever disclosed. In fact, there is never even a

hint in Allaire that the length of the beam spot 18 should be chosen to depend upon the thermal conductivity of the workpiece or the material thickness of the workpiece. Further, Allaire doesn't even allude to adjusting the length of the beam spot 18 "as small as necessary for achieving the required temperature gradient for generating the splitting crack in spite of thermal conduction but is also as large as possible in order to achieve the fastest possible introduction of heat and, consequently, a high process speed". As such, Allaire completely fails to disclose the "adjusting the beam spot length" step, as stated in Claim 7.

In addition, Examiner admits that Allaire fails to disclose the formula of Claim 7 for calculating the beam spot length. Rather, Examiner asserts that the formula disclosed by Allaire (i.e.,  $V = k a(b+1)/d$ ) can be used to calculate the beam spot length by rearranging its parameters (i.e.,  $b = (Vd/ka) - 1$ ), and that this formula obtains the same result. Again, this misconstrues the teachings of Allaire.

First, Claim 7 is a process (i.e., method) claim and not a product claim. As such, it is not the end result that matters. Rather, it is the specific process used to get to that end result that matters. This is the difference between a process claim and a product claim (or a product by process claim). As such, the use of the particular formula claimed in Claim 7 is a part of the claimed process, and cannot be overlooked by the Examiner merely by asserting that another completely different process (i.e., a different formula) can be used instead. As such, Examiner's logic is fatally flawed. Examiner must cite some reference which teaches the formula of Claim 7 in order to establish obviousness, which Examiner has admittedly failed to do. For this reason alone, Examiner has failed to establish a prima facie case of obviousness.

Second, the use of the Allaire's formula does not achieve the same end result. The use of the Examiner's modified version of Allaire's formula provides a length of the beam spot "b" which is dependent upon, in part, (1) a factor "k" which is itself dependent on the thermophysical properties of the material 10 and the beam power density, and (2) a depth of the blind crack "d". As such, Allaire's formula would determine the length of the beam spot based not specifically upon the thermal conductivity of the material 10, but instead generally upon the

thermophysical properties. In addition, Allaire's formula determines the length of the beam spot based not on the thickness of the material 10, but instead upon the depth of the blind crack "d". As such, the Examiner's rearranged formula from Allaire does not achieve the effect of determining the length of the beam spot based upon the thermal conductivity and thickness of the ceramic to be split, as does the formula of Claim 7. Therefore, it is impossible for the formula of Allaire to achieve the same end result as the formula of Claim 7.

Finally, the Examiner asserts that because the same end result is reached with the formula of Allaire (which Applicants dispute), that it would have been obvious to use any formula that provides the beam spot length as in Claim 7, assumably including the formula claimed. However, this is a clearly improper use of hindsight. In particular, the only reference which teaches the formula of Claim 7, is the current Application itself. Without the current Application, it is impossible for Examiner to cite to any reference which discloses either the formula of Claim 7 or the "adjusting the beam spot length" step of Claim 7. Since the only reference which discloses these two claim elements is the current application itself, the only way the Examiner can possibly arrive at the method of Claim 7 is to use the disclosure of the current Application itself. As such, this is an improper use of hindsight. Rather, especially since multiple references are used, Examiner must cite some reference, or combination of references, as disclosing each element of Claim 7. This, Examiner utterly fails to do.

None of the other references to which Examiner cites are able to cure the deficiencies in Allaire, either in combination with each other or Allaire. Accordingly, Applicants respectfully assert that Examiner has failed to establish a prima facie case of obviousness of independent Claim 7, and corresponding Claim 8 because it is dependant from independent Claim 7. Therefore, Applicants respectfully requests that Examiner remove the rejection of Claims 7 and 8 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,776,220 to Allaire et al. in view of U.S. Patent No. 6,811,069 to Hauer et al.

**III. REJECTION OF CLAIM 9 UNDER 35 U.S.C. § 103(A) BASED ON ALLAIRE IN VIEW OF  
HAUER AND GLUSHCHENK**

On page 5 of the current Office Action, the Examiner rejects Claim 9 under 35 U.S.C. § 103(a) as being unpatentable over Allaire in view of Hauer and Hoekstra. This rejection is respectfully traversed and believed overcome in view of the following discussion.

Claim 9 is dependent from independent Claim 7. As Claim 7 is allowable, so must be Claim 9. Therefore, Applicants respectfully request the Examiner remove the rejection of Claim 9 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,776,220 to Allaire et al. in view of U.S. Patent No. 6,811,069 to Hauer et al., and further in view of U.S. Patent No. 5,609,284 to Kondratenko.

**IV. REJECTION OF CLAIM 10 UNDER 35 U.S.C. § 103(A) BASED ON ALLAIRE IN VIEW OF  
HAUER AND KONDRATENKO**

On page 6 of the current Office Action, the Examiner rejects Claim 10 under 35 U.S.C. § 103(a) as being unpatentable over Allaire in view of Hauer and Hoekstra. This rejection is respectfully traversed and believed overcome in view of the following discussion.

Claim 10 is dependent from independent Claim 7. As Claim 7 is allowable, so must be Claim 10. Therefore, Applicants respectfully request the Examiner remove the rejection of Claim 10 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,776,220 to Allaire et al. in view of U.S. Patent No. 6,811,069 to Hauer et al., and further in view of U.S. Patent No. 5,609,284 to Kondratenko.

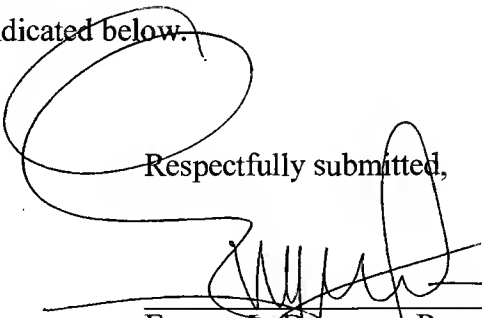
**V. REJECTION OF CLAIM 11 UNDER 35 U.S.C. § 103(A) BASED ON ALLAIRE IN VIEW OF  
HAUER AND HOEKSTRA**

On page 6 of the current Office Action, the Examiner rejects Claim 11 under 35 U.S.C. § 103(a) as being unpatentable over Allaire in view of Hauer and Hoekstra. This rejection is respectfully traversed and believed overcome in view of the following discussion.

Claim 11 is dependent from independent Claim 7. As Claim 7 is allowable, so must be Claim 11. Therefore, Applicants respectfully request the Examiner remove the rejection of Claim 11 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,776,220 to Allaire et al. in view of U.S. Patent No. 6,811,069 to Hauer et al., and further in view of U.S. Patent Application Pub. No. 2003/0024909 to Hoekstra et al.

Based upon the above remarks, Applicant respectfully requests reconsideration of this application and its early allowance. Should the Examiner feel that a telephone conference with Applicant's attorney would expedite the prosecution of this application, the Examiner is urged to contact him at the number indicated below.

Respectfully submitted,



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